Chapter 1
Introduction

[*Note to reviewers: the data and figures presented in this chapter are currently under revision based on updated project alternatives information and GIS data. Please review this chapter with a focus on the format, structure, and impact conclusions at this time. Subsequent versions of this chapter will provide the updated data and figures.*]

The Bay Delta Conservation Plan (BDCP) is a conservation plan for the Sacramento–San Joaquin River Delta (Delta). It is being developed pursuant to the federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act (NCCPA). The BDCP is intended to help meet California's coequal goals for Delta management: water supply reliability and ecosystem restoration through the actions listed below.

- *Redesigning and reoperating facilities of the state and federal water projects in the Delta (specifically, the State Water Project [SWP] and the federal Central Valley Project [CVP]).*
- *Restoring native fish, wildlife, and plant habitat.*
- *Addressing other ecological stressors in the Delta such as invasive plant species, barriers to fish migration, and predation of native fish.*

1.1 About the BDCP

The California Department of Water Resources (DWR) and several public water agencies,[1] collectively referred to as the project proponents, are applying for certain permits under state and federal endangered species laws and propose to implement the BDCP, a comprehensive conservation strategy to advance the coequal planning goals of restoring ecological functions of the Delta and improving water supply reliability to large portions of the state of California. DWR acting as lead agency for compliance with the California Environmental Quality Act (CEQA); and the Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) acting as lead agencies for compliance with the National Environmental Policy Act (NEPA) have prepared this draft environmental impact report / environmental impact statement (EIR/EIS) in compliance with CEQA and NEPA to disclose the potential effects associated with BDCP alternatives and to identify possible ways to avoid or mitigate those environmental effects.

The proposed BDCP is a unique undertaking by the project proponents, Reclamation, the California Department of Fish and Game (DFG), USFWS, NMFS, environmental organizations, and other federal, state, and local agencies and organizations that desire a plan for the long-term sustainability of the

[1] The public water agencies are contractors under either the SWP or CVP and include, but are not limited to, Alameda County Flood Control and Water Conservation District, Zone 7; Kern County Water Agency; Metropolitan Water District of Southern California; San Luis & Delta-Mendota Water Authority; Santa Clara Valley Water District; and Westlands Water District.

Delta. The BDCP is a habitat conservation plan (HCP) and a natural community conservation plan (NCCP) developed in compliance with ESA and the NCCPA, respectively. The project proponents intend that the BDCP will provide the basis for the issuance of endangered species incidental take permits for operational changes in the SWP and authorizations related to operational changes in the CVP. The BDCP is a long-term conservation strategy that sets forth actions that will be implemented over the next 50 years intended to contribute to the recovery of endangered and threatened species and to provide a more reliable water supply for human use. Detailed descriptions of the proposed approach, purpose and need, objectives, conservation strategy, and actions to be covered under the BDCP alternatives are presented in Chapters 2 and 3 of this EIR/EIS.

The alternative conservation plans evaluated in this EIR/EIS comprise combinations of the following: conservation measures (CMs) identified in the BDCP conservation strategy that address SWP/CVP water supply conveyance and operational changes to move fresh water through and/or around the Delta (CM1); restoration and conservation strategies to improve the overall ecological health of the Delta and address adverse effects on aquatic and terrestrial species and critical habitat (CM2–CM11); and measures designed to reduce the effect of other stressors on covered species (CM12–CM24). Detailed descriptions of the project alternatives are provided in Chapter 3, *Description of Alternatives*.

This chapter introduces the BDCP EIR/EIS, provides a brief summary of SWP and CVP water development infrastructure, and outlines the major Delta-related programs, policies, and decisions that influence and constrain water supply delivery. A more detailed overview of the chronology of SWP/CVP water development and Delta actions is provided in Appendix A, *Primer on California Water Delivery Systems and the Delta*. This information is intended to provide context for the reader to understand the history and complexity of issues that have led to the development of the proposed BDCP. This chapter also provides an overview and definition of the project area, summarizes the statutory basis and intended uses of the EIR/EIS, describes the various agencies' roles and responsibilities, discusses the approval process, identifies issues of known controversy, and describes the organization of the EIR/EIS.

1.2 Background

The Delta, shown in Figure 1-1, is a vitally important ecosystem that is home to hundreds of aquatic and terrestrial species, many of which are endemic to the area and a number of which are threatened or endangered. The Delta is at the core of California's water system, which conveys water to 25 million people throughout the San Francisco Bay Area (Bay Area), the Central Valley, and Southern California. Water conveyed through the Delta supports farms and ranches from the north Delta to the Mexican border that are a source of financial stability for the state and that produce roughly half the nation's domestically grown fresh produce. In addition, the Delta is a key recreational destination, and it supports extensive infrastructure of statewide importance.

The Delta remains a center of controversy in a long-standing conflict over how best to use and conserve its resources. Several fish species, including Delta Smelt and winter-run Chinook salmon, are listed under ESA and the California Endangered Species Act (CESA) and have recently experienced the lowest population numbers in their recorded history; levees and the Delta infrastructure they protect are at risk from earthquake damage, continuing land subsidence, and rising sea level; and water supplies are increasingly unreliable. The biological opinions (BOs) that USFWS and NMFS have issued for the protection of the listed species significantly changed the

manner in which the CVP and SWP operate, reducing the amounts of water exported from the south Delta.

The proposed BDCP alternatives were developed in response to these ecological and water supply issues and to meet the project objectives and purpose and need (see Chapter 2, *Project Objectives and Purpose and Need*). The following sections provide a brief overview of water supply development and natural resource management actions that have led to the development of the project alternatives evaluated in this EIR/EIS.

1.2.1 Water Supply Development

The development of California's surface water resources is a process that has spanned many decades, and to which private companies and local, state, and federal agencies have contributed. Early on, California's two major population centers, the Los Angeles and San Francisco Bay areas, recognized the need to augment local water supplies, and cities in these areas were the first to develop distant water sources. As California's growth continued, existing water projects became insufficient to meet demands. As a result, two major water projects—the CVP in 1937 and the SWP in 1957—were developed to serve agricultural and municipal water users throughout California.

In part5, both the SWP and CVP water delivery systems rely on reservoir releases in areas upstream of the Delta to deliver contracted water via the Sacramento and San Joaquin Rivers to Delta export pumps in the south Delta.. Water is exported from the Delta at the Banks Pumping plant (which supplies the California Aqueduct) and the Jones Pumping plant (which supplies the Delta Mendota Canal) (Appendix A).

For additional discussion on the history of California's water development, please refer to Appendix A, *Primer on California Water Delivery Systems and the Delta*.

1.2.1.1 State Water Project

The SWP is a complex system comprising 20 pumping plants, 5 hydroelectric power plants, 33 storage facilities with combined storage capacity of approximately 5.8 million acre-feet (MAF), and approximately 700 miles of pipelines and canals. It is the largest state-built water storage and conveyance project in the United States. DWR operates and maintains the SWP, which delivers water to 29 agricultural and municipal and industrial (M&I) contractors in northern California, the San Joaquin Valley, the Bay Area, the Central Coast, and southern California. The SWP delivers provides water to 25 million Californians and about 750,000 acres of irrigated farmland (Department of Water Resources 2010). Other project functions include flood management, water quality maintenance, power generation, recreation, and fish and wildlife enhancement. Major components of the SWP system are shown in Figure 1-2.

The SWP operates under long-term contracts with public water agencies throughout California from counties north of the Delta to Bay Area counties, through the San Joaquin Valley and coastal counties, and finally to southern California. These public water agencies in turn deliver water to wholesalers or retailers or deliver it directly to agricultural and M&I water users (Department of Water Resources and Bureau of Reclamation 2005). Of the contracted water supply, approximately three-quarters goes to M&I users and one-quarter goes to agricultural users.

More detail on the SWP facilities and service areas is provided in Chapter 5, *Water Supply.*

1.2.1.2 Central Valley Project

The CVP was authorized by the U.S. government in 1935 and construction began in the late 1930s. It comprises some 18 reservoirs with a combined storage capacity of more than 11 MAF 11 power plants, and more than 500 miles of major canals and aqueducts. Major components of the CVP system are shown in Figure 1-2. Reclamation operates and maintains the CVP, which is generally operated as an integrated project. Authorized project purposes include flood management; navigation; provision of water for irrigation and domestic uses; fish and wildlife protection, restoration, and enhancement; and power generation. However, not all facilities are operated to meet each of these purposes.

As the divisions of the CVP became operational, Reclamation entered into approximately 250 long-term contracts with water districts, irrigation districts, and others for delivery of CVP water. More detail on the CVP facilities and service areas is provided in Chapter 5, *Water Supply*.

1.2.2 Delta Environmental Protection

The SWP and CVP were planned and constructed prior to the time when more recent environmental concerns shaped legislation. However, new regulations intended to protect, conserve, and restore environmental resources were subsequently enacted, shaping the way that DWR and Reclamation manages and operates the SWP and CVP facilities. Reservoir releases and Delta exports must be coordinated to ensure that both projects operate within agreed-upon procedures and in a manner consistent with terms and conditions imposed in their water rights permits and licenses. State Water Resources Control Board (State Water Board) decisions and orders and the biological opinions (BiOps) for endangered species largely determine Delta regulatory requirements for water quality, flow, and operations. The State Water Board's Water Quality Control Plan (WQCP) and applicable water rights decisions, as well as other agreements, must be considered in determining the operations of both the SWP and CVP. Some of the major state and federal regulatory actions that influenced operations of the SWP and CVP are listed below. For additional discussion on the state and federal actions affecting California's water system, please refer to Appendix A, *Primer on California Water Delivery Systems and the Delta*.

- **Coordinated Operations Agreement (COA).** The purpose of the COA is to establish rules by which DWR and USBR coordinate operations of the SWP and the CVP such that each obtains its share of water from the Delta and bears its share of obligations to protect the other beneficial uses of water in the Delta and Sacramento Valley as defined by regulatory requirements. Coordinated operation by agreed-on criteria are intended to improve the efficiency of both the SWP and CVP.
- **Central Valley Project Improvement Act (CVPIA).** The CVPIA mandated changes in management of the CVP and, among other requirements, dedicated certain quantities of surface water for the protection, restoration, and enhancement of fish and wildlife.
- **Water Right Decision 1641.** The State Water Board's Decision 1641 implemented revised water quality objectives for flow and salinity in the Delta and superseded the prior Decision 1485.
- **CALFED Bay Delta Program.** Reclamation, DWR, and other state and federal agencies committed to implementing a long-term plan to restore the Bay-Delta, guided by four major resource management objectives: water supply reliability, ecosystem restoration, water quality, and levee system integrity. Although a Programmatic EIR was completed and a Record of

Decision (ROD)/Notice of Determination (NOD) filed in 2000, the program was not implemented.

- **USFWS Biological Opinion (2008).** USFWS released a BiOp concluding that the effects of the proposed long-term operation of the SWP and CVP are likely to jeopardize the continued existence of delta smelt. Under ESA Section 7 (50 Code of Federal Regulations [CFR] 402.02), USFWS developed a five-part reasonable and prudent action (RPA) that would likely avoid jeopardy to Delta Smelt and adverse modification of its critical habitat.
- **NMFS Biological Opinion (2009).** NMFS released a BiOp concluding that the effects of the proposed operations are likely to jeopardize the continued existence of the following species: Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, the southern Distinct Population Segment (DPS) of North American green sturgeon, and southern resident killer whale. NMFS further concluded that the SWP and CVP operations are not likely to jeopardize the continued existence of central California coast steelhead. NMFS developed an RPA composed of numerous elements for each of the various project divisions and associated stressors and determined that the RPA must be implemented in its entirety in order to avoid jeopardy and adverse modification of critical habitat.

These and other past actions have been implemented to attempt to establish a balance between consumptive and other beneficial uses of Sacramento and San Joaquin River and Delta surface water resources and to address the current altered condition of the Delta ecosystem. In addition to the effect of water supply diversions and Delta export, it is acknowledged that the following other Delta conditions have contributed to the degradation of the Delta ecosystem.

- Reduction in the amount, complexity, and diversity of aquatic and terrestrial habitat in the Delta.
- Presence of invasive nonnative fish, wildlife, and plant species.
- Barriers to fish migration.
- Changes in Delta water quality constituents, turbidity, and toxicity from natural and human-made sources.
- Effects of unscreened power plant and agricultural diversions.
- Changes in Delta water salinity.
- Increased predation of native fish and illegal harvest.
- Hatchery management practices.

The BDCP approach to addressing the Delta's challenges reflects a comprehensive approach to improving the health of the ecological system by implementing conservation measures to address specific water supply issues, restore and enhance large portions of Delta habitat to benefit native species, and reduce other ecological stressors. The BDCP also attempts to balance contributions to the conservation of species in a way that is feasible in view of the variety of important uses in the Delta—especially flood protection, agriculture, and recreation (California Natural Resources Agency 2010).

1.2.3 Relationship to the Delta Reform Act and Delta Plan

The Delta Reform Act (Reform Act), passed in 2009, made it state policy to manage the Delta in support of the coequal goals of water supply reliability and ecosystem restoration in a manner that

acknowledges the evolving nature of the Delta as a place for people and communities. The Reform Act created the Delta Stewardship Council (DSC) and empowered it to develop a comprehensive management plan (Delta Plan). State and local agencies proposing certain kinds of actions or projects in the Delta need to certify for the DSC that those efforts are consistent with the Delta Plan. The BDCP is intended to be incorporated into the Delta Plan but must be approved by DFG as an NCCP and must meet the requirements of California Water Code Section 85320. The Reform Act prescribes that the BDCP must comply with CEQA and undergo comprehensive review and analysis of the following.

- A reasonable range of flow criteria, rates of diversion, and other operational criteria required to satisfy the criteria for approval of an NCCP and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses.
- A reasonable range of Delta conveyance alternatives, including through-Delta, dual conveyance, and isolated conveyance alternatives; and capacity and design options for a lined canal, an unlined canal, and pipelines/tunnels.
- The potential effects of climate change, possible sea level rise of up to 55 inches, and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the EIR/EIS.
- The potential effects on migratory fish and aquatic resources.
- The potential effects on Sacramento River and San Joaquin River flood management.
- The resilience and recovery of Delta conveyance alternatives in the event of catastrophic loss caused by earthquake, flood, or other natural disaster.
- The potential effects of each Delta conveyance alternative on Delta water quality.

These criteria and completion of an EIR/EIS must be addressed before the BDCP can be incorporated into the Delta Plan by DSC (California Water Code Section ____). For more information on consistency with the Delta plan see Chapter 13, *Land Use*.

1.3 Project Area

Figure 1-3 shows the project area and geographic regions where potential benefits or impacts may be expected to occur with implementation of the BDCP alternatives. The project area in this EIR/EIS is larger than the proposed BDCP geographic area (i.e., the Plan Area and adjacent areas, as defined in the BDCP Planning Agreement and BDCP) because some of the effects of implementing the BDCP would extend beyond the boundaries of the Plan Area.

Potential effects of the BDCP alternatives are described in this EIR/EIS for three subregions in the project area, as shown in Figure 1-3.

- Upstream of the Delta Region.
- Delta Region.
- SWP and CVP Export Service Areas.

Study areas have been more specifically defined for each resource (refer to Chapters 5–30 for definitions of the study areas particular to each resource topic).

1.3.1 Upstream of the Delta Region

The Upstream of the Delta Region is shown in Figures 1-4 through 1-7. This region comprises those areas in the SWP and CVP system upstream of the Delta that may be affected by the BDCP alternatives. Operational changes to the SWP and CVP, including reoperation of the upstream reservoirs, rivers, and other components of the SWP and CVP that would occur under SWP/CVP water supply conveyance and operational changes to move fresh water through and/or around the Delta (CM1), may be necessary. These changes in facility operations could potentially affect the SWP and CVP systems, including in-stream and riparian areas, in the waterways listed below.

- Whiskeytown Reservoir, Clear Creek, and Trinity River; Shasta Reservoir; and Sacramento River (Figure 1-4).
- Oroville Reservoir and Feather River (Figure 1-5).
- Folsom Reservoir and Lower American River (Figure 1-6).
- Eastside streams—New Melones Reservoir and Stanislaus River and Millerton Lake and San Joaquin River (Figure 1-7).

1.3.2 Delta Region

The Delta Region encompasses the aquatic and terrestrial ecosystems and natural communities and adjacent riparian and floodplain natural communities within the statutory Delta (as defined in Water Code Section 12220), as well as the Suisun Marsh and Yolo Bypass. The statutory Delta includes parts of Yolo, Solano, Contra Costa, San Joaquin, and Sacramento Counties. The implementation of conservation measures for all BDCP alternatives would most likely entail actions within and outside the statutory Delta, including in the Suisun Marsh, Suisun Bay, and areas upstream of the Delta. Any conservation actions outside the statutory Delta would be implemented pursuant to cooperative agreements or similar mechanisms with local agencies, interested nongovernmental organizations, landowners, and others.

For the purposes of this EIR/EIS, the Delta Region encompasses the statutory Delta (BDCP Plan Area or Plan Area) and the area where CMs 2–24 occur outside the statutory Delta (Figure 1-8). All the water conveyance features that would be constructed as part of CM1 and, for certain alternatives, including new intake facilities, would be located within the Delta Region.

1.3.3 SWP and CVP Export Service Areas

The SWP and CVP Export Service Areas Region consists of areas where SWP or CVP water supply deliveries may be affected by implementation of CM1 under all the BDCP alternatives. As stated above, DWR has long-term water supply contracts with 29 agencies and districts to provide water from the SWP, and Reclamation has long-term contracts with approximately 250 water districts, irrigation districts, and others for delivery of CVP water. Because only a portion of these contractors receive water exported from the Delta, the SWP and CVP export service areas evaluated in this document are limited to those contractors receiving Delta water (Figure 1-9).

1.4 Intended Uses of the EIR/EIS and Agency Roles and Responsibilities

This document is a joint EIR/EIS prepared in compliance with the requirements of CEQA and NEPA. Prior to the selection and implementation of one of the BDCP alternatives considered in this EIR/EIS, the lead agencies must comply with the necessary state and federal environmental review requirements.

CEQA (Public Resources Code 21000 et seq.) requires preparation of an EIR when there is substantial evidence in light of the whole record that an agency action, such as approval and implementation of the BDCP, may have a significant impact on the environment. An EIR is a document disclosing and analyzing the potential significant environmental effects of a project and discussing ways to mitigate or avoid the significant effects. Pursuant to Section 15126.6(a) of the State CEQA Guidelines, an EIR must describe a range of reasonable alternatives that would feasibly attain all or most of the basic project objectives but would avoid or substantially lessen any of the significant impacts of the project, and it must evaluate the comparative merits of the alternatives. Under CEQA, a *program EIR* may be prepared on a series of actions that can be characterized as one large project, such as for certain types of HCP/NCCPs (State CEQA Guidelines Section 15168). A program EIR generally establishes a framework for subsequent *tiered* or project-level environmental documents that are prepared in accordance with the overall program. It provides a basis for evaluating environmental effects and supporting a reasoned choice among alternatives when site-specific data may not yet be available. The degree of specificity within a program EIR's impact analysis need only be as detailed as the description of the elements within the program (State CEQA Guidelines Section 15146). A *project EIR*, in contrast, "examines the environmental impacts of a specific development project," so that, once the EIR is certified, no further CEQA analysis is required prior to construction. Nothing in CEQA prohibits a single EIR from containing both program and project elements. In fact, documents taking such an approach are common in California.

Similarly, under NEPA and the Council on Environmental Quality's (CEQ's) NEPA regulations (42 U.S. Code (USC) 4321; 40 Code of Federal Regulations (CFR) 1500 et seq.), federal agencies are required to prepare an EIS for major federal actions significantly affecting the quality of the human environment. The EIS must evaluate the environmental effects of an action, including feasible alternatives, and identify mitigation measures to minimize adverse effects when they propose to carry out, approve, or fund a project that may have a significant effect on the environment. A *programmatic EIS* under NEPA (40 CFR 1500.4(i), 1502.4(b) and (c), 1502.20) may be prepared to analyze broad-scope actions that are similar in terms of timing, geography, or other characteristics. Subsequent analysis of more specific proposals is generally required under NEPA and information from a programmatic EIS can be referenced (tiered) in the subsequent NEPA document to reduce redundancy. Like EIRs, however, a single EIS can contain both programmatic and site-specific (project-level) elements.

Under both CEQA and NEPA, a combined joint document may be prepared to meet the requirements of both CEQA and NEPA. As explained above, the joint EIR/EIS may address both the program and project elements of a proposed action, as well as fulfilling the environmental analysis required by both federal and state law.

Design information for CM1, which consists of water conveyance facilities and existing facility operational changes, is available at a project level; accordingly, this EIR/EIS analyzes the actual environmental effects of this conservation measure at the project level of detail, providing the NEPA and CEQA lead agencies with sufficient information to make a decision on whether to approve the SWP/CVP water supply conveyance and operational changes to move fresh water through and/or around the Delta (CM1) after the BDCP EIR/EIS has been completed.

Design information for CMs 2–24, which include restoration and conservation strategies for aquatic and terrestrial habitat and other stressor reduction measures, is currently at a conceptual level; accordingly, this EIR/EIS analyzes them at the programmatic level, describing what environmental effects may occur in this future phase of the project. Consequently, although the lead agencies may approve the entire BDCP, authorization of CMs 2–24 may not occur until a later date, when more detailed design information is available. At this later time, it will be determined whether more focused, project-level environmental review is required.

With this project/program approach to preparing the BDCP EIR/EIS, approval of the entire proposed action (both project and program elements) may occur, pursuant to the requirements of CEQA and NEPA. This EIR/EIS will be used in the decision-making process and will guide specific implementation actions. The following sections describe the relevant review, approval, and consultation requirements necessary to implement the project.

1.4.1 Overview of Project Approval Process

The BDCP is being proposed by DWR, in collaboration with several SWP and CVP water contractors who are project proponents, listed below.

- Alameda County Flood Control and Water Conservation District, Zone 7
- The Metropolitan Water District of Southern California
- The Kern County Water Agency
- The San Luis and Delta-Mendota Water Authority
- The Santa Clara Valley Water District
- The Westlands Water District

DWR has the responsibility to operate and maintain the SWP and would be involved in all aspects of the implementation of CM1 related to the SWP, as well as any discretionary actions related to coordination with the CVP for the BDCP alternatives. The SWP contractors may be involved in decisions related to contract amendments to fund CM1 of the selected BDCP alternative, as well possibly implementing and/or funding other conservation measures.

The BDCP is intended to secure those authorizations that would allow for the goals of the Plan—conservation of covered species, water supply reliability, water quality protection, and restoration of ecosystem health—to be realized and to proceed within a stable regulatory framework. The intent of the project proponents is to formulate a plan that could ultimately be approved by USFWS and NMFS as an HCP under the provisions of ESA Section 10(a)(1)(B) and by DFG as an NCCP under California Fish and Game Code Sections 2800 et seq.

DWR and certain SWP and CVP water contractors[2] intend to apply for ESA Section 10 incidental take permits and incidental take authorization under the California Fish and Game Code for water operations and management activities. ESA and CESA prohibit the *take* of endangered or threatened species. Under the broad definition of take under ESA,[3] the term encompasses actions that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct (16 USC 1532(19)). *Incidental take* of threatened and endangered species occurs incidentally to implementation of an otherwise lawful activity, and not due to the primary purpose of the action (16 USC 1539[a][1][B]). Incidental take authorization under state law is expected to occur under the NCCPA, which provides an alternative to take authorization under CESA. Pursuant to the 2009 Delta Reform Act, state incidental take authorization for the BDCP must be sought under the NCCPA rather than CESA if the BDCP is to be integrated into the Delta Plan, as adopted by the DSC, under the process set forth in that legislation. The incidental take provisions of both ESA Section 10 and the NCCPA allow for applicants to also address as *covered species* those species that are not currently listed as threatened or endangered, but may become listed due to changes and disturbances resulting from the covered activities. The provisions under Section 10 and NCCPA provide for incidental take if those species ever become listed within the life of the permit authorization. The BDCP is also intended for use by Reclamation, USFWS, and NMFS as the basis for regulatory compliance with ESA Section 7. That statute provides federal agencies proposing actions that might adversely affect endangered or threatened species with a process for obtaining incidental take authorization. The Section 10 process is not available to federal action agencies.

The ESA and NCCPA authorizations are expected to provide a maximum allowable incidental take of threatened and endangered species from BDCP covered activities. Specifically, BDCP covered activities include operations for transport and delivery of water, construction of new water conveyance infrastructure and other facilities, maintenance and monitoring of the same infrastructure, and impacts associated with implementation of the conservation measures as described in the BDCP conservation strategy. See Chapter 3, *Description of Alternatives*, for more detail of the proposed BDCP covered activities.

In addition to the project proponents, the BDCP is being prepared with the participation of the USFWS, NMFS, the U.S. Army Corps of Engineers (USACE), the California Natural Resources Agency, DFG, the State Water Board, and various stakeholders, including American Rivers, Defenders of Wildlife, Environmental Defense Fund, The Bay Institute, The Nature Conservancy, the Natural Heritage Institute, the California Farm Bureau, Contra Costa Water District, Friant Water Authority, and North Delta Water Agency. These organizations are helping to guide the preparation of the BDCP. The regulatory agencies—USFWS , NMFS , DFG, USACE, and the State Water Board—are participating to provide technical input and guidance in support of planning efforts to complete the BDCP and as lead (USFWS and NMFS) and cooperating agencies (USACE)under NEPA or responsible agencies (DFG and State Water Board) under CEQA.

1.4.2 Use of the EIR/EIS by Other Entities

Implementation of the project will require permits and approvals from public agencies other than the lead agencies. These other public agencies are referred to as responsible agencies and trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386). Responsible agencies are

[2] A decision is still outstanding as to the role of water contractors as permittees for actions under the BDCP.

[3] *Take* under California law is defined more narrowly than under ESA. California Fish and Game Code Section 86 provides that "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

state or local public agencies other than the CEQA lead agency that have discretionary approval over the project. In most circumstances, CEQA requires a responsible agency to use the lead agency's CEQA document to support its own decision-making process (State CEQA Guidelines Section 15096). Trustee agencies include state agencies that have jurisdiction by law over natural resources affected by a project that are held in trust for the people of California.

As described in CEQ's NEPA regulations (40 CFR Section 1501.6), federal agencies other than the NEPA lead agency that have jurisdiction by law or special expertise with respect to the environmental effects anticipated from the project can be included as cooperating agencies. Federal agencies may use the lead agency's NEPA document to support their own decision-making process, if appropriate. A cooperating agency participates in the NEPA process and may provide input (i.e., expertise) during preparation of the NEPA document. Federal agencies may designate and encourage nonfederal public agencies, such as state, local, and tribal agencies, to participate in the NEPA process as cooperating agencies (40 CFR 1508.5).

Additionally, other federal and state agencies may contribute to and rely on information prepared as part of the environmental compliance process for the BDCP.

A summary of the agencies and respective review/approval responsibilities are provided in Table 1-1.

Table 1-1. Summary of Agencies and Specific Review, Approval, or Other Responsibilities [WU1]

Agency	Permit, Decision, Approval, or Other Action
Federal	
Bureau of Reclamation (NEPA lead agency)	ESA consultation Federal Water Project Recreation Act 16 USC 460(L) 12-21 Section 106 of the National Historic Preservation Act Fish and Wildlife Coordination Act (16 USC 661 et seq.)
National Marine Fisheries Service (NEPA lead agency)	Biological opinion (Section 7 of ESA) Incidental take permit (Section 10 of ESA) Essential Fish Habitat under Magnuson-Stevens Fisheries Conservation and Management Act Fish and Wildlife Coordination Act Report
U.S. Army Corps of Engineers (NEPA cooperating agency)	Clean Water Act Section 404 Rivers and Harbors Act Section 10 Rivers and Harbors Act Section 14, 33 USC 408 Federal Water Project Recreation Act 16 USC 460(L) 12-21 Flood Control Act (Public Law 78-534 Stat. 890) Protection of Wetlands (11990)
U.S. Coast Guard	Rivers and Harbors Act Section 9 Bridge Permits Construction in Navigable Waters Navigational Aides
U.S. Environmental Protection Agency (NEPA cooperating agency)	Clean Water Act Section 404 oversight
U.S. Fish and Wildlife Service (NEPA lead agency)	Biological Opinion (Section 7 of ESA) Incidental Take Permit (Section 10 of ESA) Fish and Wildlife Coordination Act Report Migratory Bird Treaty Act

Agency	Permit, Decision, Approval, or Other Action
State	
California Department of Boating and Waterways (potential CEQA responsible agency)	Coordination on construction and placement of gates, signage, and use of gates
California Department of Fish and Game (CEQA responsible agency, trustee agency)	CDFG Code Section 5650 – water pollution CDFG Code Section 1790 – wetlands CDFG Nests and Eggs, Section 3503 Fish and Wildlife Coordination Act (FWCA), 16 USC 661-667e Instream Flow – PRC Section 10000 Public Resources Code Section 10000 et seq. Migratory Birds, Section 3513 Approval of NCCP Raptors, Section 3503.5 Streambed Alteration Master Agreement (Section 1602)
California Department of Public Health (potential CEQA responsible agency)	State Drinking Water Program Water Supply Permits for Operations of Public Drinking Water Systems
California Department of Parks and Recreation (potential CEQA responsible agency, trustee agency)	Encroachment Permit
California Department of Transportation (CEQA responsible agency)	Encroachment Permit for realignment of State Route 160
California Department of Water Resources (CEQA lead agency)	CA Water Code 11100 et. Seq. (Central Valley Project Act) CA Water Code 12930 et. Seq. (California Resources Development Bond Act)
Central Valley Flood Protection Board (potential CEQA responsible agency)	Issuance of an encroachment permit under CCR Title 23
Delta Stewardship Council (potential CEQA responsible agency, trustee agency)	Determining, on appeal, whether the BDCP meets statutory criteria in the Delta Reform Act for inclusion in the Delta Plan
Division of Safety of Dams (potential CEQA responsible agency)	California Code of Regulations Section 310
Regional Air Pollution Control Districts, California Air Resources Board (potential CEQA responsible agencies)	Permit to Operate an Internal Combustion Engine Stationary Source Permit Use of Portable Equipment During Construction Clean Air Act
San Francisco Bay Area Conservation and Development Commission (potential CEQA responsible agency)	Coastal Zone Management Act, 16 USC 1451 et seq. California Coastal Act/McAteer-Petris Act

Agency	Permit, Decision, Approval, or Other Action
San Francisco Bay Regional Water Quality Control Board (potential CEQA responsible agency)	Basin Plan National Pollutant Discharge Elimination System (316(b) Permit) Stormwater Permit Waste Discharge Requirements for Dredging Projects or Fill-Related Activities
State Lands Commission (trustee agency)	Lease involving granted tide and submerged lands
State Water Resources Control Board (CEQA responsible agency)	Changes to Bay-Delta Water Quality Control Plan and Implementation (through Water Rights and other measures) Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Compliance General Certification Order for Dredging for Restoration Projects Groundwater Quality Monitoring Act NPDES Construction Stormwater General Permit Petitions for Extension of Time for Existing Water Right Permits Porter-Cologne Act Section 401 Water Quality Certification Surface Water Rights, California Code of Regulations Section 303 State Water Board Decision 1641 (Water Quality) Water Quality Control Plan for San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Order 99-08-DWQ: General Permit for Storm Water Discharges Associated with Construction Activity (33 USC 1342) Water Right Change Petitions Water Right for Long-term Transfer Petitions Basin Plan Amendment (33 USC 13240)
Central Valley Regional Water Quality Control Board (potential CEQA responsible agency)	Discharges Associated with Construction Activity (33 USC 1342) Regional General Permits Basin Plan Amendment (33 USC 13240) Waste Discharge Requirements for Dredging Projects or Fill-Related Activities
State Historic Preservation Officer	Consultation under National Historic Preservation Act, Section 106
Local and Other	
State and Federal Contractors Water Agency (NEPA cooperating agency)	Joint Powers Authority created for purposes of pursuing BDCP research and study
Contra Costa County (NEPA cooperating agency)	Floodplain development regulations (required by National Flood Insurance Program) Williamson Act cancellations Surface Mining and Reclamation Act (SMARA)
Sacramento County (NEPA cooperating agency)	Floodplain development regulations (required by National Flood Insurance Program) Williamson Act cancellations Surface Mining and Reclamation Act (SMARA)
Solano County (NEPA cooperating agency)	Floodplain development regulations (required by National Flood Insurance Program) Williamson Act cancellations Surface Mining and Reclamation Act (SMARA)

Agency	Permit, Decision, Approval, or Other Action
Yolo County (NEPA cooperating agency)	Floodplain development regulations (required by National Flood Insurance Program) Williamson Act cancellations Surface Mining and Reclamation Act (SMARA)
Reclamation District 999 (NEPA cooperating agency)	Easement/Right of way
Reclamation District 150 (NEPA cooperating agency)	Easement/Right of way
Reclamation District 550 (NEPA cooperating agency)	Easement/Right of way
Reclamation District 3 (NEPA cooperating agency)	Easement/Right of way
Individual SWP contractors[4]	Possible SWP Contract Amendment related to BDCP funding
Santa Clara Valley Water District (potential CEQA responsible agency)	Possible SWP Contract Amendment related to BDCP funding
Kern County Water Agency (potential CEQA responsible agency)	Possible SWP Contract Amendment related to BDCP funding
Metropolitan Water District of Southern California (potential CEQA responsible agency)	Possible SWP Contract Amendment related to BDCP funding
Individual CVP contractors[5]	Possible BDCP Financing Agreement with DWR
San Luis & Delta-Mendota Water Authority (potential CEQA responsible agency)	Possible BDCP Financing Agreement with DWR
Alameda County Flood Control and Water Conservation District, Zone 7 (potential CEQA responsible agency)	Possible BDCP Financing Agreement with DWR
The Westlands Water District (potential CEQA responsible agency)	Possible BDCP Financing Agreement with DWR

1.5 Issues of Known Controversy

NEPA and CEQA require that the lead agency identify issues of known controversy that have been raised during the scoping process and throughout the development of the project. The project proponents considered these concerns in the development of the BDCP and the CEQA lead agency and NEPA lead agencies have considered these concerns in preparation of this EIR/EIS. Significant environmental effects resulting from constructing and operating the BDCP will be mitigated to the

[4] To be determined when financing agreements are identified.

[5] To be determined when financing agreements are identified.

extent feasible. The following list outlines those issues that have been identified by agencies and the public, relative to the BDCP and EIR/EIS during public scoping sessions held between February 13 and May 14, 2009.

- **Range of Alternatives.** Because of the contentious nature of water-related issues in California, the selection of a suitable range of alternatives for analysis in the EIR/EIS is an issue of concern to the public as well as to governmental agencies.
- **Biological Resources.** The complexity of the BDCP raises many concerns over environmental consequences for the aquatic ecosystem and fish species, and for the terrestrial ecosystem and plant and wildlife species. These include the effects of changes in existing land uses and habitats; the interrelationship between the BDCP and other HCPs and NCCPs; and the potential disparity between restored habitats and historical conditions, which could result in adverse effects on sensitive resources, including covered species.
- **Water Supply, Surface Water Resources, and Water Quality.** Water supply and surface water resources—key drivers for development of the BDCP—remain highly controversial issues for a wide array of stakeholders (e.g., agricultural interests, hunting and fishing interests, water agencies, local jurisdictions) because of the changes in water operations, surface water flow conditions, and diversions that could occur with changes to the SWP and CVP systems. Water quality is an issue of concern because of uncertainties regarding activities associated with conveyance facilities and restored habitat that could lead to discharge of sediment, possible changes in salinity patterns, and water quality changes that could result from modifications to existing flow regimes.
- **Flood Management.** Flood management is a potentially controversial issue because implementation of the BDCP would entail modification of some existing levees as well as changes in flow regimes including inundation of the Yolo Bypass.
- **Agricultural Resources.** Because the Plan Area is largely devoted to agricultural uses, the effects of the BDCP on existing agricultural activities constitute an issue of known controversy. In addition to conversion of agricultural lands to other uses (i.e., water conveyance facilities and restored/enhanced natural habitat areas), there are concerns that conflicts could arise between continuing agricultural operations and management requirements for restoration opportunity areas (ROAs) (e.g., changes in cultivation or pest management practices).
- **Socioeconomics.** The key socioeconomic concerns involve the potential for loss of revenue and employment associated with the decrease in agricultural production associated with conversion of agricultural land to other uses, as well as the potential decrease in tax revenues due to such a decline in agricultural activities.
- **Regional Economic Resources.** Like socioeconomic concerns, regional economic issues are controversial. In addition to the concerns discussed above, these concerns address a wider geographic scope and involve such issues as the preclusion of future development in areas of the Delta that are protected in ROAs associated with implementation of the BDCP, as well as the costs of implementation and the potential loss of revenues to local jurisdictions. Potential conflicts between operable barriers and gates may divert recreation away from the Delta and affect businesses related to recreational boating and fishing marinas.
- **Recreation.** Concerns relating to recreation include potential conflicts between construction and operation of the BDCP and ongoing Delta recreational activities (e.g., boating, fishing,

hunting, enjoyment of marinas). In addition, there are concerns about possible conflicts between operable barriers and gates in Delta waterways and recreational boating corridors.

- **Mosquitoes and Other Hazards.** Public health hazards—particularly those associated with mosquitoes—must be addressed because of concerns that increased areas of natural habitat, especially those associated with periodic inundation, could lead to an increase in breeding habitat for mosquitoes as well as habitat for rodents and other wildlife species and, consequently, to an increase in potential disease vectors.
- **Aesthetics.** Potential effects on aesthetics are controversial to area residents; these concerns focus largely on the proposed intake facilities and the power transmission facilities necessary to support them and, to a lesser degree, on new canals that are proposed under some of the alternatives.
- **Growth.** One of the BDCP objectives is to increase water supply reliability to SWP and CVP contractors south of the Delta. Increasing the reliability of water may allow additional growth within the south Delta or in export service areas. Concerns regarding the growth-inducing consequences of the BDCP generally focus on the potential effects of increased water supply to the southern part of the state.

1.6 CEQA/NEPA Project-Specific Terminology

CEQA and NEPA are similar in that both laws require preparation of an environmental analysis to evaluate the environmental effects of proposed governmental activities. However, there are several differences between the two in terminology, procedures, environmental document content, and substantive mandates to protect the environment. For this EIR/EIS, the more rigorous of the two laws was applied in cases in which NEPA and CEQA differ. As discussed in more detail in Chapter 4, *Approach to the Environmental Analysis*, because CEQA and NEPA have different provisions related to the baseline for determining environmental effects of the project alternatives, separate baselines were developed and separate impact conclusions have been made for CEQA and NEPA.

Many concepts are common to NEPA and CEQA; however, the laws sometimes use differing terminology for common concepts, as illustrated in Table 1-2.

Table 1-2. Distinct CEQA and NEPA Terminology

CEQA Term	Correlated NEPA Term
Environmental Impact Report	Environmental Impact Statement
Notice of Preparation	Notice of Intent
Notice of Completion/Notice of Availability	USEPA Filing/Federal Register Notice and Agency/ Public Review
Notice of Determination/Findings/Statement of Overriding Considerations	Record of Decision
Responsible Agency	Cooperating Agency
Project Objectives	Purpose and Need
Proposed Project and Alternatives	Project Alternatives
No Project Alternative	No Action Alternative
Environmental Impacts	Environmental Consequences

CEQA Term	Correlated NEPA Term
Environmental Setting	Affected Environment
Threshold of Significance	[none specified in NEPA]

1.7 Related Actions, Programs, and Planning Efforts

This section is generally included in NEPA documents as *related actions*, *interrelated actions*, or *connected actions* as part of scoping (40 CFR 1508.25 ([a][1]). NEPA describes these actions as connected if they automatically trigger other actions that may require an EIS; cannot or will not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 [a][i, ii, iii]). Connected actions are limited to actions that are currently proposed (ripe for decision). Actions that are not yet proposed are not connected actions, but may need to be analyzed in the cumulative effects analysis if they are reasonably foreseeable.

Due to the geographic area covered by the proposed BDCP, a large number of activities and studies that are currently ongoing or planned for the near future could be affected by the proposed BDCP actions. These related studies and projects that have been conducted are summarized in Appendix A, *Primer on California Water Delivery Systems and the Delta*. Not all these actions are directly or indirectly related to the project. Where appropriate, however, the effects of these actions are included in this EIR/EIS. This listing should give the reader a general understanding of ongoing water resource issues in the State of California. If appropriate, these actions are also identified and analyzed in the cumulative impact analysis in the relevant resource chapter.

1.8 EIR/EIS Organization

This EIR/EIS is organized as shown below.

Chapter 1: Introduction. Contains a background summary and the project area; information related to the statutory basis for preparing an EIR/EIS; intended uses of the document by lead, responsible, cooperating, and trustee agencies; and a summary of document organization.

Chapter 2: Purpose and Need/Project Objectives. Describes the project objectives and purpose and need for the project.

Chapter 3: Description of Alternatives. Describes the alternatives evaluated in the EIR/EIS.

Chapter 4: Approach to the Environmental Analysis. Summarizes the environmental impact analysis approach, framework, and bases of comparison for CEQA and NEPA purposes; provides an overview of the cumulative effects analyses conducted for each resource topic.

Chapters 5 through 28. These chapters include a discussion of the environmental setting/affected environment, analysis methods, environmental consequences, mitigation measures/environmental commitments for the project alternatives, and the cumulative effects for each of the individual resource topics.

- Chapter 5: Water Supply

- Chapter 6: Surface Water
- Chapter 7: Groundwater
- Chapter 8: Water Quality
- Chapter 9: Geology and Seismicity
- Chapter 10: Soils
- Chapter 11: Fish and Aquatic Resources
- Chapter 12: Terrestrial Biological Resources
- Chapter 13: Land Use
- Chapter 14: Agricultural Resources
- Chapter 15: Recreation
- Chapter 16: Socioeconomics
- Chapter 17: Visual Resources
- Chapter 18: Cultural and Historic Resources
- Chapter 19: Transportation
- Chapter 20: Public Services and Utilities
- Chapter 21: Energy Resources
- Chapter 22: Air Quality and Greenhouse Gas Emissions
- Chapter 23: Noise
- Chapter 24: Hazards and Hazardous Materials
- Chapter 25: Public Health
- Chapter 26: Mineral Resources
- Chapter 27: Paleontological Resources
- Chapter 28: Environmental Justice (NEPA only)

Chapter 29: Climate Change. Discusses climate change conditions associated with the project alternatives.

Chapter 30: Growth Inducement. Describes the potential for the project alternatives to either promote or remove an obstacle related to growth in the project area and the possible impacts of such growth.

Chapter 31: CEQA Effects of the Project Alternatives. Discloses the impact determinations for each resource topic based on specific significance thresholds and conclusions related to significance after application of feasible mitigation.

Chapter 32: Other CEQA/NEPA Required Sections. Discusses the relationship between short-term uses of the environment, maintenance, and enhancement of long-term productivity, and the irreversible and irretrievable commitment of resources.

Chapter 33: Public Involvement, Consultation, and Coordination. Describes the consultation and outreach activities that occurred during the document preparation process.

Chapter 34: List of Preparers. Identifies the individuals who prepared this document.

Chapter 35: Acronyms and Abbreviations. Lists the project-specific terminology and acronyms and abbreviations used in this EIR/EIS.

Chapter 36: Glossary. Provides definitions for specialized terms related to the project alternatives.

This EIR/EIS contains reference to numerous appendices prepared to support the various chapters. The Appendices are organized as shown below. [*Note to reviewers: list in preparation*]

1.9 References

California Natural Resources Agency. 2010. *Highlights of the BDCP*. December. Available: <http://baydeltaconservationplan.com/Home.aspx>. Accessed: November 3, 2011. Prepared in collaboration with the Department of Water Resources and California Department of Fish and Game. Sacramento, CA.

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